

Final Environmental Assessment

NORTH JETTY MAJOR MAINTENANCE STATIONS 95+00 TO 145+00

**Grays Harbor and Chehalis River Navigation Project
Grays Harbor County, Washington**

March 13, 2000



**US Army Corps
of Engineers®**
Seattle District

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Responsible Agencies: The responsible agency for this maintenance work is the U.S. Army Corps of Engineers, Seattle District.

Abstract: The North Jetty was constructed in 1907 to maintain a navigable channel at the mouth of the Grays Harbor, thereby reducing the need for dredging. Together with the South Jetty, the North Jetty confines tidal currents so that scouring velocities are obtained in the Harbor inlet. No North Jetty maintenance work has been performed since 1976. Recent surveys indicated that portions of the jetty have deteriorated. In its present condition, the jetty is overtopped by large amounts of water during storm events. Drainage through and adjacent to the jetty is inadequate to carry away the volume of incoming water caused by combined high tides and storm wave conditions. This Environmental Assessment evaluates the impacts of rehabilitating approximately 5000 feet of the North Jetty. This rehabilitation includes placement of 87,000 tons of rock, and construction of a access road. No in-water work would occur. Based on the analysis contained in this Environmental Assessment, this project is not a major Federal action significantly affecting the quality of the human or natural environment, and therefore does not require preparation of an environmental impact statement

THE OFFICIAL COMMENT PERIOD ON THIS ENVIRONMENTAL ASSESSMENT OCCURRED
FROM FEBRUARY 1 TO MARCH 6, 2000.

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1. INTRODUCTION

This Environmental Assessment (EA) evaluates the impacts of rehabilitating approximately 5000 feet of the existing jetty on the northern mouth of Gray's Harbor. This rehabilitation includes placement of approximately 87,000 tons of armor rock, and construction of a construction access road. No in-water work would occur.

1.1 Location

Grays Harbor is at the mouth of the Chehalis river on the southwestern coastline of Washington, approximately 110 miles south of the entrance to the Strait of Juan de Fuca and 45 miles north of the Columbia River's outfall. The proposed project is located in Grays Harbor County at the Harbor's northern entrance (Figure 1), in T17N R12W Section 27. The geology, hydrology, and ecology of Grays Harbor are discussed in subsequent sections of this assessment.

1.2 Background

The North and South Jetties were originally constructed to maintain a navigable channel at the mouth of the Grays Harbor (Figure 1), thereby reducing the need for maintenance dredging. These jetties confine tidal currents so that scouring velocities are obtained in the Harbor inlet.

During the late 1800s, the relatively shallow bar channel at the mouth of Grays Harbor was a hindrance to navigation. Between 1898 and 1902, the first rock jetty in Grays Harbor was constructed 13,734 feet seaward of Point Chehalis at an elevation of +8' MLLW. The South Jetty was constructed with the belief that it would maintain a bar channel of -24' MLLW. A jetty on Point Brown was constructed between 1907 and 1910. The North Jetty was originally 10,000 feet long and built to a height of +5' MLLW. However, shortly after construction was completed it became obvious that these jetties would not stabilize a deeper channel. Between 1910 and 1916, the North Jetty was extended 7000' and reconstructed to a height of +8' MLLW. By 1916, the rehabilitated jetties caused the entrance channel to scour to a depth of -18' MLLW. Between 1917 and 1927, the channel was periodically dredged to a depth of -24' MLLW and in 1928 the channel was dredged to a depth of -36' MLLW.

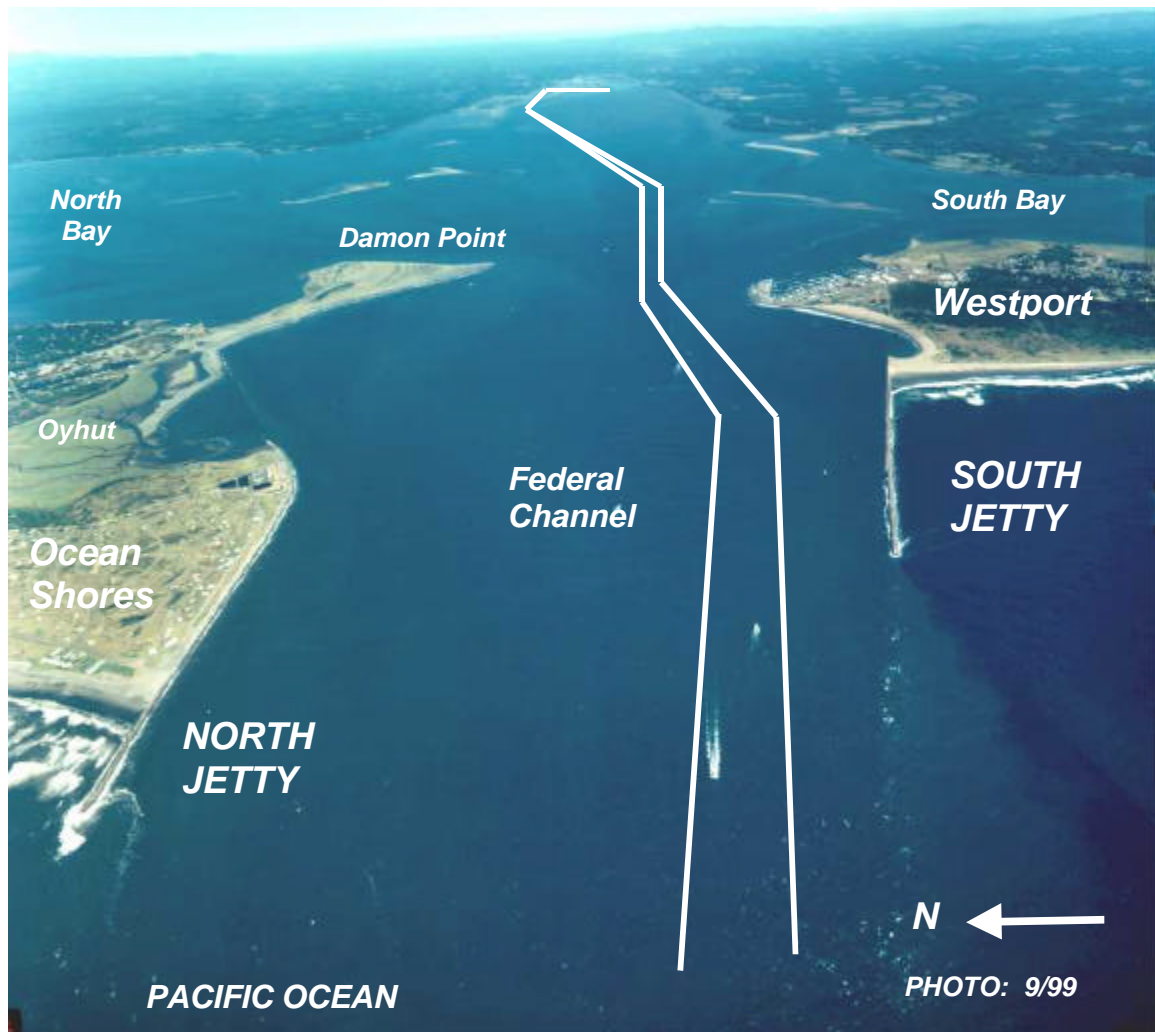
Between 1935 and 1942, the North Jetty was raised to a height of +20' MLLW. In 1966, 4000 feet of the South Jetty was reconstructed to an elevation of +20' MLLW. At this height, the jetties produced the self-maintaining desired channel depth of -34' MLLW. In 1976, the deteriorating North Jetty was rehabilitated to a height of 20' MLLW.

1.3 Need for Action

A detailed topographic and bathymetric survey of the North Jetty was conducted in August 1996. At this time, the portion of the jetty between stations 115+00 to 145+00 (see jetty general plan in Appendix A) had an average crest elevation of between 17' and 18' MLLW, though several gaps with a top elevation of 14' MLLW were present. East of Station 155+00, average elevations were one foot lower. In its present condition, the jetty is overtopped by large amounts of water during even moderate storm events. Drainage through, and adjacent to, the jetty is inadequate to carry away the large volume of incoming water caused by combined high tides and storm wave

conditions. This results in erosion along the landward jetty toe, and extensive flooding in the backshore area. Return flow from overtopping waves has also formed swash channels at both ends of the structure (near stations 100+00 and 140+00).

Figure 1. Aerial View of the Grays Harbor Inlet



1.4 Authority

The Grays Harbor and Chehalis River Navigation Project was authorized by the Rivers and Harbors Act, which was adopted 30 August 1935 and modified 2 March 1945, 30 June 1948, and 3 September 1954 (the Act combines former projects “Grays Harbor and Bar Entrance” and “Grays Harbor, Inner Portion and Chehalis River,” adopted by Acts of 3 June 1896, 2 March 1907, 25 June 1910, 8 August 1917, 21 January 1927, and 3 July 1930). Congress added \$3,000,000 to the FY2000 budget at the request of the City of Ocean Shores to provide for maintenance of the North Jetty under existing Corps of Engineers Operations and Maintenance authority.

1.5 Relationship to the City of Ocean Shores Long Term Coastal Erosion Management Strategy Draft EIS

In May 1999, the City of Ocean Shores released a draft Washington State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) on their long term coastal erosion management strategy (City of Ocean Shores 1999). This document was the City’s first major step towards deciding what can and should be done to manage the shoreline erosion and storm/tidal flooding that threatens the southern and western portions of the City. The Draft EIS identified several categories of alternatives including: (1) no action, (2) retreat and retreat with dune construction, (3) on-shore beach nourishment and/or offshore beach nourishment, and (4) construction of structural features. One of the structural alternatives considered in this document was jetty modification, which involved a *seaward extension* of the jetty. An older section of the jetty, now submerged, extends west of Ocean Shores’ western shoreline; this portion of the jetty was not rehabilitated during the 1976 maintenance cycle. The jetty modification alternative would have restored this submerged portion of the jetty to a condition that would block the shoreline north of the jetty from storm waves and longshore sediment flow. An evaluation of this alternative suggested that a seaward extension of the jetty would probably not slow or prevent the area’s erosion problems, but exacerbate them.

Since the release of the City’s Draft EIS, the Seattle District Corps of Engineers has initiated a study to review the feasibility of storm damage reduction at Ocean Shores. *However, the action evaluated in this document is **not** the “jetty modification” alternative presented in the Draft EIS. The proposed action would occur on the portion of the jetty that is directly adjacent to Point Brown. No work would occur on the free-standing portions of the jetty that extend westward from the shore into the Pacific Ocean, and eastward into North Bay.*

2. PROPOSED ACTION AND ALTERNATIVES ANALYSIS

2.1 Description of the Proposed Action

The proposed action consists of the following activities, which are detailed in Appendix A:

- (a) Placement of approximately 87,000 tons of Class A stone (average weight 15 tons) along approximately 5000’ of the North Jetty. The rehabilitated jetty section would have a top elevation of +23’ MLLW, a top width of 30’ and 2H:1V side slopes. This maintenance work would be offset from the existing alignment to avoid placing new materials below MHHW, and to avoid over-steepening the design slope on the ocean side. The North Jetty’s elevation

would be raised from +20' MLLW to +23' MLLW. The increase in height would allow for future settlement prior to the next maintenance cycle in approximately 30 years, and is expected to decrease the frequency and magnitude of flood events caused by jetty overtopping.

- (b) Grading/excavation of the area landward of the jetty, and construction of a 30' wide access road between stations 99+00 and 137+00. Approximately 5000 cubic yards of sand would be removed from the area and temporarily stockpiled adjacent to the access road. Approximately 10,000 tons of pit run rock would be used for the access road, although exact specifications are under the discretion of the contractor. Upon completion of the project, the stockpiled native material (sand) would be spread onto the access road.

No in-water work would occur. All rock would be placed above +9 MLLW, which is the mean higher high water datum at this location. Large stone pieces would be individually placed on the jetty, most likely by a crane or hydraulic excavator. Contracting documents would specify that placement work will be accomplished at least one foot above still water elevation. The minimum size of armor rock placed on the outer face would be 8 tons, so it is highly unlikely that they could accidentally tumble into the water. Some smaller road material would be placed between the larger rocks on top of the jetty so that vehicles can work from the structure. This road material would be placed between 7 and 14 feet above MHHW. During severe storms some of this smaller material would likely be washed into the Harbor.

The "Profile Along Construction Access Road Baseline" on the Profile and Sections page of the project drawings (see Appendix A) is a representation of pre- and post-construction conditions in the portion of the project area subject to grading and filling. Grading work and access road construction would occur out of intertidal areas; boundaries for this project feature occur at +14' MLLW on the western side and +12' MLLW on the eastern side. East Ocean Shores Boulevard runs adjacent to the construction access road, but cannot be intensively used by construction vehicles due to the potential for damage to city infrastructure (i.e., the road and underground utilities). Constructing roads both on top and adjacent to the jetty would enable construction traffic to move in two directions, allowing construction to proceed faster (hence less expensive) and quieter (since vehicle reverse warning signals would not beep during a mile of travel in reverse). In addition, the access road would be graded from an elevation of +16' MLLW at 126+00 to +14' MLLW on the western edge of the road and +12' MLLW at the eastern end of the road. This would promote drainage of any water that overtops the jetty.

The stone used to construct the road is expected to deteriorate under the weight of construction vehicles, and thus is not expected to remain serviceable. Sand graded/excavated during the construction of the road would be temporarily stockpiled adjacent to the road. Upon the completion of construction activities, this native material would be spread onto the access road. Vegetation is expected to quickly re-colonize the area and large drift logs will be returned, so the disturbed area will soon return to its original appearance.

The project work would occur between 7:00 AM and 3:30 PM, Monday through Friday excluding holidays. Track-mounted excavators, bulldozers, and cranes would likely be used at the

site; approximately 40 round trips by trucks are expected each day. A staging area would be located west of the sewage treatment plant, within the project boundaries. Construction activities would occur at a fairly slow pace; except during grading and site preparation, a high level of activity/noise would not be sustained. The jetty stone is large enough that it will be delivered one stone per truck, so placement would occur intermittently.

Construction is tentatively scheduled to begin during June or July 2000, and activities would be completed approximately fourteen months later. In the spirit of the Congressional addition to the FY00 budget, the maintenance work will be optimized to maximize wave overtopping protection by the winter 2000/2001 (i.e., large gaps delineated in the 1996 bathymetric survey would be repaired first).

2.2 Alternatives

In addition to the preferred alternative, two alternative plans and the no-action alternative were considered. These alternatives are discussed briefly below.

2.2.1 No Action

No North Jetty maintenance work has occurred since 1976. A recent topographic and bathymetric survey indicated that portions of the jetty have subsided, and several gaps are present. In its present condition, the jetty is overtopped by large amounts of water during even moderate storm events. Overtopping waters flood East Ocean Shores Boulevard and adjacent homes, and have the potential to undermine the landward toe of the jetty (see Section 1.3 above). Continued deterioration of the jetty would result in a substantial increase in future jetty maintenance costs (i.e. repair of further deterioration could require in-water work, which would lead to increased monetary and environmental costs). Maintenance of the jetty is necessary to minimize dredging of the outer reach of the Grays Harbor Federal Navigation Channel.

2.2.2 Rock Transport and Placement by Barge

This option was considered until the City of Ocean Shores granted truck access to the city streets used for a recent sewer plant upgrade. While more cost-efficient than truck transport, barge transport would have necessitated construction of a barge dock. A dock would have significant impacts to the nearshore marine environment, and its construction would be limited by fish window timing restrictions. Under the preferred alternative, the contractor still has the option to transport rock to the area by barge. However, an existing terminal would be used to offload the rock which would then be transported to the site by truck.

2.2.3 Construction of Overtopping Apron and Berm

This option involved: (1) raising the jetty to a height of +22' MLLW; (2) excavation of 37,000 cubic yards of sand from the area landward of the jetty; (3) construction of 3 to 4' thick overtopping apron, ranging from 50' to 120' in width, landward of the jetty; (4) disposal of the excavated material in a 24' high berm adjacent to this overtopping apron. The berm and overtopping apron were to remain in place upon the completion of construction activities.

These features were designed to alleviate scour caused by overtopping waters, and to reduce the magnitude and severity of flooding of East Ocean Shores Boulevard and nearby homes. However

field investigations determined that there is insufficient erosion behind the jetty to warrant such an extensive structural solution. Raising the jetty top elevation by one foot is expected to address the overtopping problem in a more cost-effective and less disruptive manner.

The primary purpose of the access road in the current design is construction vehicle access, with a secondary purpose of drainage. The overtopping apron was designed to alleviate scour, which is not anticipated to be a problem except during extremely intense storms which arrive on a high tide.

3. EXISTING ENVIRONMENT

3.1 Geology and Hydrology

The Grays Harbor area is a drowned coastal valley that was historically sheltered from ocean currents by bay bars. The Harbor is surrounded on three sides by low hills, and its waters can be divided into estuarine and oceanic components. The inner harbor broadens steadily from Cosmopolis at the mouth of the Chehalis River west to Point New. The outer harbor, which includes the North and South Bays, is considerably wider and is enclosed by two long spits, Point Brown to the north and Point Chehalis to the south.

Fresh water inflow to the estuary comes predominately from the Chehalis, Hoquiam, and Humptulips Rivers. The Chehalis River contributes about 80% of the total freshwater flow. The predominant physical features of the Harbor are the expansive mudflats that cover 63% of the Harbor's surface area at low tide (MLLW); the water surface ranges from about 94 square miles at mean higher high water (MHHW) to 38 square miles at MLLW. Numerous shallow channels have been cut into the mudflat areas of the North, South, and East Bays by ebbtide flows and discharge from the Humptulips, Elk, and Chehalis Rivers, respectively.

Grays Harbor sediments are composed of mostly unconsolidated sand and silt, as the Harbor acts as a trap for river- and ocean-transported sediments. Studies of mineral distribution in Harbor sediments, adjacent beaches, and basin rivers confirm that marine sediments of Columbia River origin are transported into the estuary by longshore and tidal currents. Fine sediment, much of riverine origin, is transported out. Finer sediments are found in abundance closer to the head of the estuary. Soils throughout the City of Ocean Shores are typically marine sand with minor deposits of gravel, silt, and clay.

Before the jetties were constructed, sediment was carried into the Harbor by the flood tide, and out of the Harbor with the ebb tide. These sediments formed a large shoal west of the Harbor's inlet, called an ebb-tidal delta. This shoal was broad and shallow, and restricted safe navigation into the inlet. The jetties were built to confine tidal currents so that scouring velocities were obtained and the entrance channel deepened. After jetty construction, the Harbor entrance was stabilized to a width of about 6,500' and the inlet deepened from -15' to -34' MLLW. The scouring of the bar freed a large sand supply, which fed the beaches north of the inlet and resulted in rapid accretion. Between 1870 and 1950, Point Brown advanced seaward approximately 9000 feet, gaining approximately 1500 acres of new land (City of Ocean Shores 1999).

Accumulation rates have slowed significantly in recent decades, and during the 1990's coastal erosion and ocean storm-surge flooding became significant problems for the City of Ocean Shores, a portion of which is located on Point Brown. During a March 1999 storm event with 106 mph winds and a maximum significant wave height of 32 feet, jetty overtopping brought over five feet of water to an area 0.75 mile inland of the jetty. This overtopping can be at least partially attributed to scour caused by the jetties (i.e., lowering of the ebb delta). As the Harbor inlet continues to deepen, wave dissipation decreases. The jetty is now exposed to larger and more frequent ocean storm waves approaching from the southwest. Flooding in south Ocean Shores is occurring with increasing frequency, due to waves overtopping the North Jetty.

3.2 Water Quality

Outer harbor waters, from the channel entrance to about the mouth of the Johns River, are classified as Excellent "A" by Washington Department of Ecology criteria for dissolved oxygen (DO), temperature, pH and turbidity. Inner harbor waters are classified as Good "B."

The City of Ocean Shores wastewater treatment plant discharges into the Harbor mouth. The city's sewage is subject to secondary treatment. Effluent is in compliance with NPDES standards, except on extreme high flow days when discharge may slightly exceed water quality requirements, and is discharged during the ebb tide. In addition, there are five NPDES discharges in the Westport area (EPA 2000a).

3.3 Vegetation

Eelgrass (*Zostera spp.*), macroalgae, and salt-marsh communities occur throughout the shallow intertidal flats of Grays Harbor. In a 1982 survey, salt marsh, eelgrass beds and unvegetated mudflats comprised about 8%, 21%, and 31% of the Harbor's total surface area, respectively. Arrowgrass (*Triglochin maritimum*), saltgrass (*Distichlus spicata*), pickleweed (*Salicornia virginica*), and various sedge species dominate the salt marsh community. A field inspection determined that no wetlands are present in the project area.

The area on the landward side of the North Jetty is dominated by the non-native European beachgrass (*Ammophila arenaria*). A few pockets of big headed sedge (*Carex macrocephala*) are present, and scattered individuals of beach pea (*Lathyrus japonicus*), yarrow (*Achillea millefolium*), beach strawberry (*Fragaria chiloensis*), and American searocket (*Cakile edentula*) are dispersed throughout the area. It appears that a few small pockets of standing salt water may occur during certain times of the year, as indicated by the presence of sea milk-wort (*Glaux maritima*) and evidence of salt-stressed European beachgrass in depression areas.

3.4 Fish

The inner portion of Gray's Harbor contains a variety of productive intertidal habitats, whereas outer Grays Harbor, including the area immediately offshore of the North Jetty, is dominated by subtidal communities. Benthic species important to commercial and recreational fisheries include Pacific oysters (*Crassostrea gigas*), razor clams (*Siliqua patula*), and Dungeness crab (*Cancer magister*). Pelagic species of economic importance include: coho (*Oncorhynchus kisutch*) and chinook (*Oncorhynchus tshawytscha*) salmon, Pacific herring (*Clupea pallasii*), northern anchovy

(*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), and surf smelt (*Hypomesus pretiosus*). Important demersal species are: lingcod (*Ophiodon elongatus*), English sole (*Parophrys vetulus*), and starry flounder (*Platichthys stellatus*), rockfish (*Sebastes sp.*), and Pacific cod (*Gadus microgadus*).

After jetty construction, subtidal and intertidal habitat in the vicinity of the North Jetty changed substantially. The jetty is approximately 40' in height, though only one third of the structure extends above the mean higher high water line. Lingcod and rockfish occupy habitat created by the portion of the jetty that remains submerged at MHHW. Lingcod and rockfish provide sport fishing opportunities, but they also prey on migrating juvenile salmonids. Diving waterfowl hunt heavily near the jetty, using the steep structure slope to push fish against. Marine mammals use similar techniques to enhance their ability to capture adult salmonids (City of Ocean Shores 1999).

3.5 Wildlife

Grays Harbor is an important migratory stop for over twenty species of shorebirds. The western sandpiper (*Calidris mauri*) and overwintering dunlins (*Calidris alpina*) are particularly numerous species. Other shorebirds, seabirds, and waterfowl common to the Grays Harbor area include: the red knot (*Calidris canutus*), dowitcher (*Limnodromus scolopaceus*), great blue heron (*Ardea herodias*), Caspian tern (*Sterna caspia*), widgeons (*Anas americana*), black brant geese (*Branta bernicla*), pelagic and double-crested cormorants (*Phalacrocorax pelagicus* and *Phalacrocorax auritus*), western grebes (*Aechmophorus occidentalis*), and various species of gulls. The eelgrass beds of the inner and outer Harbors are an important food source for many of these species. Grays Harbor supports the peregrine falcon (*Falco peregrinus*), which prey upon shorebirds during their spring migrations. Bald eagles (*Haliaeetus leucocephalus*) and several species of hawks and owls also use the Harbor.

Intertidal flats and islands in Grays Harbor are used by harbor seals (*Phoca vitulina*) as haul-out areas and pupping grounds. Gray whales (*Eschrichtius robustus*) migrate along the Washington coast in spring and fall; some individuals remain at Neah Bay during the summer, and occasionally enter Grays Harbor estuary. Other marine mammals that occur in the area include the Pacific striped dolphin (*Stenella coeruleoalba*), harbor porpoise (*Phocoena phocoena*), sea otter (*Enhydra lutris*), and several species of seals and sea lions.

3.6 Threatened and Endangered Species

In accordance with Section 7(a)(2) of the Endangered Species Act of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed and proposed threatened or endangered species. Several species listed as either threatened or endangered are potentially found in Grays Harbor County (see Table 1.).

Bald eagles (*Haliaeetus leucocephalus*), brown pelicans (*Pelecanus occidentalis*), Western snowy plovers (*Charadrius alexandrius nivosus*), and marbled murrelets (*Brachyramphus marmoratus*) are known to occur in the project vicinity. Aleutian Canada geese (*Branta canadensis leucopareia*) migrate through the Grays Harbor area during the spring and fall.

Table 1. Threatened and Endangered Species of Grays Harbor County

Scientific Name	Common Name	Listing Status
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Threatened
<i>Pelecanus occidentalis</i>	Brown Pelican	Endangered
<i>Charadrius alexandrius nivosus</i>	Western Snowy Plover	Threatened
<i>Brachyramphus marmoratus</i>	Aleutian Canada Goose	Threatened
<i>Branta canadensis leucopareia</i>	Marbled Murrelet	Threatened
<i>Salvelinus confluentus</i>	Bull Trout	Threatened
<i>Salmo clarki clarki</i>	Coastal Cutthroat Trout	Proposed
<i>Megaptera novaeangliae</i>	Humpback Whale	Endangered
<i>Balaenoptera musculus</i>	Blue Whale	Endangered
<i>Balaenoptera physalus</i>	Fin Whale	Endangered
<i>Balaenoptera borealis</i>	Sei Whale	Endangered
<i>Physeter macrocephalus</i>	Sperm Whale	Endangered
<i>Eumetopias jubatus</i>	Steller Sea Lion	Threatened
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	Endangered
<i>Caretta caretta</i>	Loggerhead Sea Turtle	Threatened
<i>Oncorhynchus kisutch</i>	Coho	Candidate

Three anadromous fish runs in the Grays Harbor Basin are listed or are candidates for listing. These runs are included the Coastal/Puget Sound Population Segment Bull Trout (*Salvelinus confluentus*), the Southwest Washington/Columbia River Evolutionarily Significant Unit Coastal Cutthroat Trout (*Salmo clarki clarki*), and the Lower Columbia/Southwest Washington ESU Coho (*Oncorhynchus kisutch*).

Several species of endangered and threatened marine mammals and sea turtles may occur off the coast of Washington. These include: humpback whale (*Megaptera novaeangliae*), blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), Sei whale (*Balaenoptera borealis*), sperm whale (*Physeter macrocephalus*), Steller sea lion (*Eumetopias jubatus*), leatherback sea turtle (*Dermochelys coriacea*), and loggerhead sea turtle (*Caretta caretta*). With the exceptions of the humpback whale and Steller sea lion, these species generally remain far offshore and are rarely seen near Grays Harbor.

Information on known occurrences of endangered and threatened species in the project vicinity, and the potential impacts of the proposed project on these species are addressed in a separate Biological Evaluation (Appendix C).

3.7 Cultural Resources and Native American Concerns

Estuarine areas are known to have been heavily utilized by Native American tribes and early European settlers; Grays Harbor is generally considered a culturally rich area. However, lands in the vicinity of the project area have accreted since 1870 so it is unlikely that buried archaeological resources materials exist within the construction site. A 24 January 2000 query of the 1993

Washington State Office of Archaeology and Historical Preservation database turned up no sites listed on the National Register of Historic Places.

The Quinault Nation has treaty-reserved rights to usual and accustomed fish grounds in Grays Harbor. A small tribal steelhead fishery occurs during the winter, generally through February; fishing takes place for 3 days during the early part of the week (e.g. Sunday through Tuesday). Spring/summer stocks are harvested from early May through the end of July, also for three days a week. No tribal fisheries occur in August or September. Fall fishing begins around October 1, and may take place 24 hours a day.

3.8 Land Use

The upland area adjacent to the jetty is platted for multi-family medium- and high-density residential development, and single-family residential development. There are a total of 86 lots, with a mean area of 0.42 acres. 50 are single-family residential, and 26 have improvements. 36 lots are located in the multi-family/ultra high density zone adjacent to the Pacific Ocean, 14 of which have improvements. No homes are located on the jetty (south) side of East Ocean Shores Boulevard.

The majority of the construction area consists of property owned by the City of Ocean Shores, although two tracts are privately owned; the Corps has an easement for maintenance of the North Jetty. There are currently no restrictions to public access of the area, and no such restrictions are anticipated in the foreseeable future.

3.9 Utilities and Public Services

The City of Ocean Shores Wastewater Treatment Plant (WWTP) is located adjacent to the eastern end of the proposed jetty rehabilitation. The City's sewer system has recently been upgraded, including the construction of an inland revetment around the WWTP to protect it from flooding associated with jetty overwash. The plant's access road remains in the overwash area, however. Grays Harbor Public Utility District power, US West telephone, and Coast Communications Cable main lines and primary trunks run along the median of Ocean Shores Boulevard.

3.10 Air Quality and Noise

Grays Harbor County meets EPA Ambient Air Quality standards (EPA 2000a), and those set by the State of Washington for suspended particulates and sulfur dioxide. There can be measurable pollution from industrial sources such as pulpmills near the Aberdeen-Cosmopolis area.

In the portion of the project site adjacent to single- and multi- family residences, the principal sources of sound are natural (i.e., wind and surf), as the area is not urban. The area adjacent to the WWTP could periodically have slightly higher noise levels.

3.11 Transportation

East Ocean Shores Boulevard runs parallel to the jetty. It floods often, and two of its four lanes have been destroyed by erosion from floodwaters. Access to residences is often impacted during storm events.

3.12 Socio-Economics

The City of Ocean Shores supports a population of more than 3,300 year-round residents. As a resort community, the city also experiences a significant influx of seasonal residents during the spring and summer months. Nearly 50% of the area's 3,000 housing units function as seasonal residences or vacation homes (City of Ocean Shores 1999). Tourism and seasonal residents play a critical role in Ocean Shores' economy; economic activity is highly seasonal (Kraley and Noble 1999). Commercial and recreational fishing are also important sectors of the local economy.

3.13 Recreation

The City of Ocean Shores hosts between 2.5 and 3 million visitors each year, and the City's tourism industry continues to grow (City of Ocean Shores 1999). Recreational harvesters target several species present in adjacent coastal waters, including surf smelt, salmon, razor clams, and crab. Bird watching, walking, horseback riding, and kite flying are also common recreational activities. The Oyhut Wildlife Area and Damon Point State Park are located northeast of the jetty. The North Jetty Ocean Beach Access Point is located near the western boundary of the proposed work. People are commonly seen walking in the area between the North Jetty and East Ocean Shores Boulevard.

3.14 Aesthetics

The jetty structure visually dominates the project area. Large chunks of asphalt and construction debris are scattered throughout the dune area behind the jetty, further detracting from any naturalistic characteristics of the shoreline. The relative quality of the area is low, as more undisturbed beach, dune, and spit areas are located east and west of the project area.

4. ENVIRONMENTAL EFFECTS

4.1 Geology and Hydrology

No sand would be removed from the site by construction activities, except that incidental to vegetation removal. The contractor would not be required to remove the access road upon completion of construction activities. This would prevent native bed material from inadvertently being removed with the access road. Sand excavated during the construction of the road would be temporarily stockpiled adjacent to the road. After maintenance work is complete, this native material would be spread onto the access road.

To promote drainage of overwash, the access road would be graded from +16' MLLW at Station 126+00 to +14' MLLW on the west end and +12 at the east end. This grading is not likely to alter the topography or hydrology of the areas east and west of the access road. The most severe overtopping events occur during higher tides, which would buffer runoff at either end of the project. Overwash would be expected to join with the tidal waters and recede with the outgoing tide, as opposed to flowing quickly and scouring the outflow area.

4.2 Water Quality

Since no in-water work would occur, no significant water quality impacts are expected to result from the proposed construction activities. The following management actions would be implemented during construction activities. These conditions are included in project contracting specification documents; a Corps inspector would be on-site to ensure that contractors abide by these requirements.

- 1) All grading and placement work will be accomplished in the dry at least one foot above still water elevation.
- 2) Large stone pieces will be individually placed on the jetty, so that they rest securely upon underlying material and are in contact and interlock with adjacent stone to the maximum extent possible.
- 3) Petroleum products and other toxic materials will be stored in a staging area above MHHW, and will be prevented from entering surface waters.
- 4) If distressed or dead fish, or any obvious sign of contamination such as oil sheen or odor, are observed by the contractor all work will cease and the inspector shall be notified.
- 5) All garbage from work crews will be placed into containers which are emptied on a regular schedule.

4.3 Vegetation

Construction would destroy the dune vegetation behind the jetty. The area behind the jetty is not a natural dune, and has been extensively disturbed by road maintenance/construction, flooding, and dike construction near the WWTP. It is dominated by an invasive, non-native species. The access road would be covered with native material once construction activities are complete, and the construction area is expected to be quickly re-colonized by European beachgrass.

Native plant species enhancement was considered as a restoration measure for the proposed project, but was determined to be infeasible due to the invasive nature of European beachgrass. Unlike the native dune grass, dune wildrye (*Elymus mollis*), European beachgrass thrives in areas where sand is accumulating and decreases in vigor where the substrate remains stable (Pojar and MacKinnon 1994). Through rapid growth and dense cover, European beachgrass quickly crowds out native dune species (Wiedemann 1984). Given the degree of sand movement and presence of European beachgrass in the project area, the non-native species would be expected to out-compete any dune wildrye planted landward of the jetty. European beach grass can be controlled by burning followed by herbicide application, or by the removal of young plants; however, these methods require constant patrolling (Wiedemann 1984).

No large woody debris (LWD) currently present in the project area will be removed from the site. LWD interfering with construction work would be moved, stockpiled, and replaced upon project completion.

4.4 Fish

Potential impacts to fishery resources were considered during the design of the proposed work, and steps have been taken to minimize construction impacts: the alignment of the jetty would be

offset in the landward direction to avoid placement of rock below MHHW, and rock would be hauled via the landward side of the jetty as opposed to more cost-effective barge transport.

The proposed work will not alter marine habitat, nor would it affect feeding, refuge or spawning habitat. No trees would be removed during construction. Some smaller road material may be placed between the larger rocks on top of the jetty so that vehicles can work from the structure. This road material would be placed between 7 and 14 feet above MHHW. During severe storms there is a possibility that some of this smaller material could be washed into the Harbor. A small increase in turbidity and sedimentation could be expected to occur during such events. However, elevated turbidity levels would be negligible considering high background turbidity during such events and the materials would likely be flushed to sea.

4.5 Wildlife

Several bird species forage in the Oyhut Wildlife Area and on Damon Point. Since rock transport and placement operations will produce noise above ambient levels, some disturbance to feeding activities could be expected. However, this localized activity should not have a significant effect on local bird populations. No nesting, or roosting habitat would be physically altered. Prey availability in any foraging habitat in the project area would be only temporally affected, if at all.

Potential effects to marine mammals largely relate to possible sound disturbance caused by construction activities. No boat operations will occur adjacent to the project area, however rock transport and placement operations on the landward side of the jetty will produce noise above ambient levels. When placed on the waterward side of the jetty, rocks will be placed individually only above the water line. Short-term impacts of any sound disturbance related to construction activities would likely result in displacement of animals rather than injury. The potential for long-term or indirect impacts of the proposed project to marine mammals is minimal. Jetty maintenance will not increase vessel traffic in the mouth of the Harbor, and construction activities are not anticipated to degrade water quality or decrease prey availability in any way.

4.6 Threatened and Endangered Species

Potential impacts of the proposed project on threatened and endangered species are addressed in a separate Biological Evaluation (BE). This BE provides the Corps' rationale for the effect determinations briefly described below, and summarized in Table 2.

Bald eagles, brown pelicans, Western snowy plovers, and marbled murrelets are known to forage in areas of the Harbor near the North Jetty; while foraging birds may be temporarily displaced by construction activities, their long-term food base will not be altered by the project. No known Aleutian Canada Goose migratory stop-over sites are located near the project area, and any potential flight path disruptions would likely be insignificant. A Western Snowy Plover nesting area, which is designated as critical habitat for this species, is located approximately 5000' from the project location. This area will not be directly affected by construction activities and no indirect effects, such as alteration of hydrology and/or topography, are anticipated. The Corps determined that the proposed project will not adversely affect these bird species, and will not adversely modify designated critical habitat of the Western Snowy Plover.

Since no in-water work will occur, and no marine habitat or riparian vegetation will be altered, the Corps had determined that the proposed work is not likely to adversely affect bull trout, coastal cutthroat trout, or coho.

Humpback whales and Steller sea lions may be disturbed by the noise of the construction operations; any sound disturbance may displace, but not injure, these animals. Therefore, the maintenance would is not likely to adversely affect these species.

Since no in-water work would occur and there is little evidence that the blue whale, fin whale, Sei whale, sperm whale, leatherback sea turtle, and loggerhead sea turtle are likely to occur in the project area, the proposed project was determined to have no effect on these species.

Table 2. Effect Determination Summary

Scientific Name	Common Name	Effect Determination
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Not likely to adversely affect
<i>Pelecanus occidentalis</i>	Brown Pelican	Not likely to adversely affect
<i>Charadrius alexandrius nivosus</i>	Western Snowy Plover	Not likely to adversely affect
<i>Brachyramphus marmoratus</i>	Aleutian Canada Goose	Not likely to adversely affect
<i>Branta canadensis leucopareia</i>	Marbled Murrelet	Not likely to adversely affect
<i>Salvelinus confluentus</i>	Bull Trout	Not likely to adversely affect
<i>Salmo clarki clarki</i>	Coastal Cutthroat Trout	Not likely to jeopardize the continued existence
<i>Megaptera novaeangliae</i>	Humpback Whale	Not likely to adversely affect
<i>Balaenoptera musculus</i>	Blue Whale	No effect
<i>Balaenoptera physalus</i>	Fin Whale	No effect
<i>Balaenoptera borealis</i>	Sei Whale	No effect
<i>Physeter macrocephalus</i>	Sperm Whale	No effect
<i>Eumetopias jubatus</i>	Steller Sea Lion	Not likely to adversely affect
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	No effect
<i>Caretta caretta</i>	Loggerhead Sea Turtle	No effect
<i>Oncorhynchus kisutch</i>	Coho	No determination made

4.7 Cultural Resources and Native American Concerns

The project is not expected to interfere with tribal set net or drift net fisheries. Set nets are used upstream of the railroad bridge at Aberdeen. Construction will not displace drift fishermen, who operate from boats.

No impacts to cultural resources are anticipated to result from the proposed construction activities. However, if any cultural resources are encountered during construction, all work will cease and the State Historic Preservation Officer will be notified.

4.8 Land Use

Jetty rehabilitation would not alter City of Ocean Shores land use designations in any way. There is a possibility, however, that the project would be perceived as flood control. Such a perception could result in increased home construction in subdivided area behind jetty. However, increase development is unlikely for two reasons: (1) area real estate is “red lined” meaning that obtaining a mortgage would be difficult; and (2) obtaining city permits for home construction would also be difficult.

4.9 Utilities and Public Services

The heightened jetty may provide some flood protection to the WWTP’s access road. Since the primary WWTP facilities are currently armored and protected by dikes, however, the proposed project would provide minimal additional flood protection to WWTP. The current level of service for telephone, cable, and electricity utilities would be maintained.

4.10 Air Quality and Noise

During construction, there would be a temporary and localized reduction in air quality due to emissions from equipment operating during excavation (rack-mounted excavators), rock placement (approximately 40 dump truck round trips/day and cranes), and grading (bulldozers). These emissions are not expected to cause adverse health effects or to result in the violation of applicable air quality standards. Therefore, impacts would not be significant.

Ambient noise levels would increase slightly while the aforementioned equipment is operating. Dominant noise type would shift from natural sources, such as wind and surf, to equipment noise. However, these effects would be temporary and localized, and would occur only during daylight working hours. As a result, impacts would not be significant.

4.11 Transportation

The heightened jetty may protect East Ocean Shores Boulevard from floodwaters and the damage caused by overwash. Construction vehicles may temporarily disrupt local and tourist traffic on Point Brown, although the impact is not expected to be significant. Jetty rehabilitation would ensure that navigable depths of the Grays Harbor channel are maintained.

4.12 Socio-Economics

Construction activities will not adversely impact the two major sectors of the local economy, tourism and commercial/recreation fisheries. Prime recreational destinations occur west and east of the project area, so tourists and seasonal residents may be slightly inconvenienced by construction traffic (see Section 4.13 below). This impact is not expected to prevent people from visiting Ocean Shores. The proposed project is not expected to have a significant effect on the local economy.

4.13 Recreation

During construction, recreation on and directly adjacent to the jetty would be precluded. Beach access through the North Jetty Ocean Beach Access Point would be maintained to the extent

safety allows. Three public beach access sites are located between the project site and Sportsman's Way; these access points may be indirectly affected by construction activities (i.e., truck traffic). Offshore activities should not be affected by jetty rehabilitation construction. The jetty work is not expected to have any long-term impacts on public access points. The construction access road would not be accessible to recreational users, however East Ocean Shores Boulevard runs adjacent to the proposed access road and is only 100 feet away.

Since potentially adverse effects of project construction on recreation would be temporary and localized, project impacts would not be significant.

4.14 Aesthetics

During construction, there would be some disturbance from heavy equipment used to place rocks on the jetty. Such disturbance is not expected to be significant. After construction is complete, there will be more rock and less vegetation in the nearshore area. However, vegetation is expected to quickly re-colonize the access road. Construction debris currently in the project area will be removed and disposed in a sanitary landfill.

The proposed project would partially block the ocean view of adjacent residences. The character of the view would not change, as the jetty already dominates the scenic vista. On average, the portion of the structure in front of homes would be raised by approximately 6 feet. The top elevation of the heightened jetty would be about 5 feet above the elevation of East Ocean Shores Boulevard (~18' MLLW). However, the project could not be reasonably located elsewhere and the Corps believes view interference would be outweighed by the reduction of flooding associated with the higher structure. In its present condition, the jetty is overtopped by large amounts of water during even moderate storm events. The work would reduce the frequency and severity of flooding as occurred during March 1999, where major private and public property/ infrastructure was damaged.

5. UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse effects of the proposed project include: (1) the disruption of local and tourist traffic by construction vehicles; (2) partial view blockage by the heightened jetty; and (3) disruption to birds foraging in the area due to the noise of construction activities. For reasons discussed in this document, the Corps has determined that these effects are not significant.

6. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

No federal resources were be irreversibly and irretrievably committed to this project until the "Finding of No Significant Impact" (FONSI) was signed.

7. CUMULATIVE IMPACTS

Past actions in the project area include a recent \$7 million expansion of the City of Ocean Shores wastewater treatment plant. A vacuum collection system, installed in 1994, was expanded and now services the entire city. A force main, which transports sewage from the entire city to the

treatment plant was installed along the edge of the Oyhut Wildlife Area. The periphery of the plant was armored upon completion of the upgrades. Any cumulative impacts of these upgrades and the proposed project would be highly localized, and would not significantly affect the quality of the natural or built environments. In both cases, the inconvenience of minor short-term disruptions is outweighed by long-term benefits.

Future actions in the project area will likely involve attempts to manage storm damage on Point Brown, as discussed in Section 1.5. The Corps of Engineers, Seattle District will soon submit a proposal for a General Investigation (GI) to study protection of privately owned developed lands and associated non-Federal publicly owned lands and infrastructure from storm damage. Potential cumulative impacts of jetty maintenance and other construction activities in southern Ocean Shores will be considered in the analysis of alternative plans in the GI study.

8. COORDINATION

The following agencies and entities have been involved with the environmental coordination of the proposed project:

- Washington Department of Fish and Wildlife (WDFW)
- U.S. Fish and Wildlife Service (USFWS)
- National Marine Fisheries Service (NMFS)
- Washington Department of Ecology (Ecology)
- Environmental Protection Agency (EPA)
- City of Ocean Shores
- Quinault Indian Nation
- Washington State Office of Archaeology and Historic Preservation

On 19 January 2000, an environmental coordination meeting was held in Ocean Shores.

Attendees included representatives of WDFW, EPA, and Ocean Shores. Corps representatives included the project manager, design engineer, and environmental coordinator. Recent design changes, and the potential of the project to adversely affect fishery resources were discussed. The group then proceeded to the site to discuss steps that could be taken to minimize such fishery impacts. The primary areas of concern were the extreme eastern and western ends of the project. It was determined that the type of materials used to construct the access road (as shown in the 18 January preliminary drawings) could negatively impact a surf smelt spawning bed located near the jetty's west side and a small tidal channel in front of the sewage facility. The WDFW representative was concerned that wave action would quickly transport the small angular rocks used for the access road by into the spawning bed, and that grading work in front of the sewage facility was located too close to an intertidal area. The project's design engineer suggested that the Corps could shorten the access road, requiring contractors to work on top of the jetty in these problem areas. The WDFW representative determined that this design change would preclude the need for "fish window" timing restrictions.

On 1 March 2000, a second environmental coordination meeting was held at the project site. Attendees included representatives of WDFW, USFWS, Ecology, and Ocean Shores. Corps representatives were the project manager, design engineer, environmental coordinator, and Office

of Counsel. Topics of discussion included the potential effects of noise on the snowy plover, the need for and alignment of the access road, the type of road material that may be placed on the top of the jetty, and Coastal Zone Management Act/Shoreline Master Program issues. After review of information on speed limits and traffic routes for construction traffic within Ocean Shores, and a discussion about the level of activity construction activities would require (i.e., a fairly slow pace of work with only periodic truck entrances and intermittent rock placement as opposed to sustained high activity/noise levels), WDFW and USFWS representatives agreed with the Corps determination that the proposed work would not adversely affect snowy plovers. A WDFW representative was concerned about the possibility of road materials placed on top of the jetty being transported to nearby surf smelt spawning beds. It was agreed that the WDFW representative would present parameters for acceptable materials (i.e., size and type) for inclusion in contractor specification documents.

9. ENVIRONMENTAL COMPLIANCE

9.1 National Environmental Policy Act

A Draft Environmental Assessment for the North Jetty major maintenance project was prepared in January 2000. Copies were sent to the agencies listed in Section 8. Copies of the Draft EA were also displayed at the Oceans Shores Permit Center, City Hall, and public library. In addition, a copy was sent to an interested property owner that requested information on the project. The public comment period on this Draft EA was 30 days. The Department of Ecology was the only entity to submit comments; these comments are addressed in Appendix E.

9.2 Endangered Species Act Section 7 Consultation

In accordance with Section 7(a)(2) of the Endangered Species Act of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed or proposed threatened or endangered species. A Biological Evaluation was submitted to USFWS and NMFS on 11 January 2000. A supplement to this BE, which detailed significant design changes, was submitted on 31 January 2000. The Corps received letters of concurrence with the determinations made in the Biological Evaluation on 25 February 2000 (NMFS) and 13 March 2000 (USFWS). These letters can be found in Appendix D.

9.3 Clean Water Act Compliance

A 404(b)(1) evaluation, which demonstrates compliance with the substantive requirements of the CWA is required for work involving discharge of fill material into the waters of the United States. Since no fill material would be placed below MHHW, a 404(b)(1) evaluation and a 401 water quality certification is not required for the proposed project.

9.4 Coastal Zone Management Act Consistency

The Coastal Zone Management Act of 1972, as amended, requires Federal agencies to carry out their activities in a manner which is consistent to the maximum extent practicable with the enforceable policies of the approved Washington Coastal Zone Management Program.

9.4.1 Shoreline Management Act Consistency

The Shoreline Management Act (SMA) is the core of authority of Washington's CZM Program. A shoreline substantial development permit is required for most work that will "substantially develop" a shoreline of the State of Washington. A permit is granted only when the applicant shows that the proposed work is consistent to the maximum extent practicable with the enforceable policies of the SMA or local shoreline management plan. However, the Department of Ecology retains authority to substitute a state plan for a local regulation when the shoreline is designated a "shoreline of state-wide significance." All City of Ocean Shores shorelines are considered shorelines of statewide significance.

A shoreline substantial development permit from the City of Ocean Shores or the Department of Ecology is not required for jetty maintenance, since there has been no waiver of sovereign immunity by the Federal government to require or allow such regulation of Federal agencies by local governments. Under the Federal Coastal Zone Management Act, the Corps is required to demonstrate that this action complies with Washington's Shoreline Management Act to the maximum extent practicable.

In the City of Ocean Shores Shoreline Master Plan (Title 18 of the Municipal Code), the project site is designated *urban*, meaning that it is an area of high human use and shoreline modification. Permitted uses in urban areas include both *water control devices and structures* and *bulkhead and other protective devices* (Chapter 18.38.020 Urban Environment Regulations, Permitted Uses). The City of Ocean Shores has declared this project exempt from substantial development permit requirements, since it is repair of an existing structure that has been damaged by the elements.

9.4.2 Grays Harbor Estuary Management Plan Consistency

The Grays Harbor Estuary Management Plan (GHEMP) is a long-range, coordinated, comprehensive plan designed to guide land and water use activities in the Grays Harbor estuary and the surrounding shoreline. It is implemented through the Ocean Shores Shoreline Master Program, the Master Programs of other local jurisdictions, and the State Shoreline Management Act.

The proposed project site is within Planning Area VI, Management Unit 1 of the GHEMP. This area is designated *Conservancy Managed*, meaning that activities which occur in the area should be compatible with natural systems. Continued maintenance of existing facilities is said to be consistent with other guidelines for this planning area (p. 43, "Bankline" section of Planning Area Guidelines). The primary designated use of Management Unit 1 is navigation, and the secondary use is public recreation and enjoyment.

The Corps has determined that the proposed project is consistent to the maximum extent practicable with enforceable policies of the City of Ocean Shore's shoreline management program, and with the Grays Harbor Estuary Management Plan. A CZM consistency evaluation explaining the rationale for this determination was sent to the Washington State Department of Ecology on 9 February 2000. This evaluation can be found in Appendix C. On 3 March 2000, the Department of Ecology requested some additional information of the proposed project. The Corps responses to Ecology's comments can be found in Appendix E.

9.5 Hydraulic Permit Approval

An HPA from the WDFW is not required for federal work that involves construction within state waters, since there has been no waiver of sovereign immunity by the Federal government to require or allow such regulation of Federal agencies by local governments.

9.6 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 USC 470) requires that wildlife conservation receive equal consideration and be coordinated with other features of water resource development projects. This goal is accomplished through Corps funding of U.S. Fish and Wildlife Service habitat surveys evaluating the likely impacts of proposed actions, which provide the basis for recommendations for avoiding or minimizing such impacts. A Fish and Wildlife Coordination Act Report is not required for maintenance work.

9.7 National Historic Preservation Act

The National Historic Preservation Act (16 USC 470) requires that the effects of proposed actions on sites, buildings, structures, or objects included or eligible for the National Register of Historic Places must be identified and evaluated. A 24 January 2000 query of the 1993 Washington State Office of Archaeology and Historical Preservation database indicated that no sites listed on the National Register of Historic Places are located in the project section. Given the recent geological origin of this portion of Point Brown and the extent of construction activities that have occurred there in recent years, the Corps has determined that no resources included or eligible for inclusion in the National Register of Historic Places would be effected by the proposed project. On 11 February 2000 the Corps received a letter from the Washington State Office of Archaeology and Historic Preservation stating that no resources included in or eligible for inclusion in the National Register of Historic Places have been recorded in the project area. This letter can be found in Appendix D.

9.8 Executive Order 12898, Environmental Justice

Executive Order 12898 directs every federal agency to identify and address disproportionately high and adverse human health or environmental effects of agency programs and activities on minority and low-income populations.

The potentially affected community does not include a minority and/or low income population. A query of the EPA's SITEINFO GIS (EPA 2000a) indicated that all 1990 census tracts within a 25 mile radius of the City of Ocean Shores contained a population that is 95% caucasian, and less than 12% of Ocean Shores' population had income below the poverty level. No hazardous waste facilities, Superfund Sites, or Toxics Release Inventory (TRI) facility sites are located in Ocean Shores, but the city's waste water treatment is located in the project area.. Three Superfund sites are located in Grays Harbor County, all in Hoquiam (EPA 2000b). One TRI facility is located in Westport, and seven others are located in or east of Hoquiam (EPA 2000c). Nine facilities designated as hazardous sites by Ecology are located in Grays Harbor county, all located in or east of Hoquiam (Ecology 2000). The population of the Quinault Tribe is not concentrated in the project area, however their treaty-reserved rights to the fishery resources of Grays Harbor.

The project does not involve the siting of a facility that will discharge pollutants or contaminants, so no human health effects would occur. Jetty maintenance would not negatively affect property values in the area, or socially stigmatize local residents or businesses in any way. No interference with Quinault Nation treaty rights would result from the proposed project; construction activities would not physically interfere with fishing, nor impact fishery resources.

Since no high and adverse effects are anticipated to result from the project, the Corps has determined that no disproportional impacts would occur.

10. CONCLUSION

Based on the preceding analysis, this project is not a major Federal action significantly affecting the quality of the human or natural environment, and therefore does not require preparation of an environmental impact statement

11. REFERENCES

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12. LIST OF PREPARERS

The following Corps personnel prepared and/or reviewed this EA:

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13. LIST OF APPENDICES

Appendix A Project Design Drawings

Appendix B Biological Evaluation and Biological Evaluation Supplement

Appendix C Coastal Zone Management Act Consistency Determination

Appendix D Letters of Concurrence

Appendix E Response to Department of Ecology Comments

Coastal Zone Management Act Consistency Determination

North Jetty Major Maintenance Stations 95+00 to 145+00 Grays Harbor and Chehalis River Navigation Project

Prepared by:
Seattle District, U.S. Army Corps of Engineers
CENWS-PM-PL-ER

February 9, 2000

1. INTRODUCTION

The proposed Federal action is maintenance work on the existing Grays Harbor North Jetty. This work involves placement of approximately 87,000 tons of stone on approximately 5000 linear feet of the existing jetty, and construction of a rock access road directly landward of the jetty. No in-water work would occur. This determination of consistency with the Coastal Zone Management Act is based on review of applicable sections of the State of Washington Shoreline Management Program, and policies and standards of the adopted City of Ocean Shores (Washington) Shoreline Master Program and the Grays Harbor Estuary Management Plan.

2. PROJECT DESCRIPTION

All work described below would occur on the portion of the jetty that is directly adjacent to Point Brown; no work would occur on the free-standing portions of the jetty that extend westward from the shore into the Pacific Ocean, and eastward into North Bay. The proposed action consists of the following activities, which are detailed the attached drawings:

- (c) Placement of approximately 87,000 tons of Class A stone (average weight 15 tons) along approximately 5000' of the North Jetty. The rehabilitated jetty section would have a top elevation of +23' MLLW, a top width of 30' and 2H:1V side slopes. This maintenance work would be offset from the existing alignment to avoid placing new materials below MHHW, and to avoid over-steepening the design slope on the ocean side. The North Jetty's elevation would be raised from +20' MLLW to +23' MLLW. The increase in height would allow for future settlement prior to the next maintenance cycle in approximately 30 years, and is expected to decrease the frequency and magnitude of flood events caused by jetty overtopping.
- (d) Grading/excavation of the area landward of the jetty, and construction of a 30' wide access road between stations 99+00 and 137+00. Approximately 5000 cubic yards of sand would be removed from the area and temporarily stockpiled adjacent to the access road. Approximately 10,000 tons of pit run rock would be used for the access road, although exact specifications are under the discretion of the contractor. Upon completion of the project, the stockpiled native material (sand) would be spread onto the access road.

No in-water work would occur. All rock would be placed above +9 MLLW, which is the mean higher high water datum at this location. Large stone pieces would be individually placed on the jetty, most likely by a crane or hydraulic excavator. Grading work and access road construction would occur out of intertidal areas; boundaries for this project feature occur at +14' MLLW on the western side and +12' MLLW on the eastern side.

3. STATE OF WASHINGTON SHORELINE MANAGEMENT PROGRAM

The Shoreline Management Act of 1971 (RCW 90.58) is the core of authority of Washington's CZM Program. All City of Ocean Shores shorelines are considered shorelines of statewide significance, so responsibility for implementation of Act is shared between the City of Ocean Shores and the Washington State Department of Ecology (Ecology). The City has developed its own Shoreline Master Program (SMP), but Ecology retains authority to substitute a state plan for a local regulation when the shoreline is designated a "shoreline of state-wide significance."

A shoreline substantial development permit is required for any work that will "substantially develop" a shoreline of the State of Washington. A permit is granted only when the applicant shows that the proposed work is consistent to the maximum extent practicable with the enforceable policies of the SMA or local shoreline management plan.

4. CITY OF OCEAN SHORES SHORELINE MASTER PROGRAM

The City of Ocean Shores SMP (Title 18 of the Municipal Code) was adopted in 1974 and is presently being amended. The proposed project site is designated *urban* (see attached figure), meaning that it is an area of high human use and shoreline modification. Permitted uses in urban areas include both *water control devices and structures* and *bulkhead and other protective devices* (Chapter 18.38.020 Urban Environment Regulations, Permitted Uses). The City of Ocean Shores had declared this project exempt from substantial development permit requirements, since it is repair of an existing structure that has been damaged by the elements (see attached exemption statement).

5. GRAYS HARBOR ESTUARY MANAGEMENT PLAN

The Grays Harbor Estuary Management Plan (GHEMP) is a coordinated regional comprehensive plan designed to guide land and water use activities in the Grays Harbor estuary and the surrounding shoreline. It is implemented through the Ocean Shores Shoreline Master Program, the Master Programs of other local jurisdictions, and the State Shoreline Management Act.

The proposed project site is within Planning Area VI, Management Unit 1 of the GHEMP. This area is designated *Conservancy Managed*, meaning that activities which occur in the area should be compatible with natural systems. Continued maintenance of existing facilities is said to be consistent with other guidelines for this planning area (p. 43, "Bankline" section of Planning Area Guidelines). The primary designated use of Management Unit 1 is navigation, and the secondary use is public recreation and enjoyment.

The access road would not be removed upon completion of construction activities, so that native bed material would not be inadvertently removed with the access road. Sand excavated during the construction

of the road would be temporarily stockpiled adjacent to the road. After maintenance work is complete, this sand would be spread onto the access road. Since the road would be covered with native material, the natural character of the shoreline would be maintained.

During construction, recreation on and directly adjacent to the jetty would be precluded. Beach access through the North Jetty Ocean Beach Access Point would be maintained to the extent safety allows. Three public beach access sites are located between the project site and Sportsman's Way; these access points may be indirectly affected by construction activities (i.e., truck traffic). The jetty work is not expected to have any long-term impacts on public access points or recreational activities.

6. STATEMENT OF CONSISTENCY

Based on the above evaluation, the Corps has determined that the proposed project complies with the policies, general conditions, and general activities specified in the City of Ocean Shores SMP and the Grays Harbor Estuary Management Plan. The proposed action is maintenance work of any existing facility, and is thus considered consistent to the maximum extent practicable with the State of Washington Shoreline Management Program, and the standards and policies of the City of Ocean Shores SMP and the Grays Harbor Estuary Management Plan.

Response to Department of Ecology Comments

North Jetty Major Maintenance Stations 95+00 to 145+00 Grays Harbor and Chehalis River Navigation Project

*Prepared by:
Seattle District, U.S. Army Corps of Engineers
CENWS-PM-PL-ER*

March 7, 2000

Comment 1

Include Washington Shoreline Management Act on Page iii/ #9

Response: The Corps has a responsibility to demonstrate compliance with the Federal Coastal Zone Management Act (CZMA), as discussed in Section 9.4 of the Draft EA. The Washington Shoreline Management Act is discussed within Section 9.4.

Comment 2

Page 6/7 #2.1 Alternatives analysis

Add some text which describes how construction of the access road was selected, why it is necessary, how it will impact the land, and its relation to the former apron structure. Also needed, here or elsewhere, is to clarify how the road will blend in with the dunal environment, post construction.

Response: This information was added to the project's environmental assessment (see Sections 2.1 and 2.2.3).

Comment 3

Clarify whether the road will be serviceable in future projects, and whether it will be useful for recreational purposes. Reference to SMP 18.030.050.

Response: The stone used to construct the road is expected to deteriorate under the weight of construction vehicles, and thus is not expected to remain serviceable. The road would not be accessible to recreational users, however East Ocean Shores Boulevard runs adjacent to the proposed access road and is only 100 feet away. Minor additions to the discussion of recreational use of the project area were added to the project's environmental assessment (see Sections 3.8, 3.13, and 4.13).

Comment 4

Page 13/ #4.3 Vegetation

Add some text about how the *Ammophila spp.* relate to native beachgrass species, and whether there has been any discussion of post-project restoration/ native species enhancement. I understand it may be deemed infeasible for various reasons, but enhancement should be considered, and explanation given for what choice is made, and how that choice is consistent with the SMP #18.32.010.

Response: Information on the ecology of European beachgrass was added to the project's environmental assessment (see Section 4.3). Native plant species enhancement was considered, but was determined to be infeasible due to the invasive nature of the European beachgrass that dominates the area. It is out of the scope of this project to attempt to control European beachgrass in the project area. This determination is consistent with Chapter 18.32.010 of Ocean Shores' shoreline plan, since restoration of shoreline areas to their "natural state" is expected only when a use or structure is to be discontinued or removed.

Comment 5

Page 16/# 4.8 Land Use

This section, or else a separate section, should describe on the ground land impacts from grading and filling, with reference to SMP 18.12.010 (A)(B)(D)(H) and (I) and 18.14.010 (A)(C)(D)(F)(G) and (H).

Response: An expanded discussion of the access road was added to the project's environmental assessment (see Section 2.1). The "Profile Along Construction Access Road Baseline" on the Profile and Sections page of the project drawings is a good representation of pre- and post-construction conditions in the portion of the project area subject to grading and filling.

Grading/excavation and road construction would occur between stations 99+00 and 137+00. This configuration buffers (>15 feet) tidal waters from all grading and fill work, which would occur above +12' MLLW (+9' MLLW is mean higher high water at this location). Only clean rock would be used to construct the access road. No excess road building materials would be placed adjacent to the access road; any excess would be temporarily stored at the staging area. No drainage features are necessary, since any water that has overtopped the jetty would percolate back through the jetty/road or drain to east and west; if a flood of the magnitude of 3 March 1999 occurred again, there is no culvert that could handle the flow. No sand will be removed from the construction area, except that incidental to the clearing of vegetation. The entire project area has been previously disturbed by man. The eastern portion of the project area has been more recently disturbed by construction associated with upgrades to the City wastewater treatment plant, so secondary access roads were located in this area.

Comment 6

Also note 18.06.100 r/e notification of interested parties.

The Draft Environmental Assessment for the project was displayed in the City of Ocean Shores Permit Center, City Hall, and public library. A copy was also sent to an interested property owner that requested information on the project. The public comment period on the Draft EA was 30 days. The Department of Ecology was the only entity to submit comments.

In addition, the City of Ocean Shores advertised their shoreline substantial development permit exemption notice in the local newspaper. The City did not receive any official comments, but several citizens in their permit center have made remarks in favor of the project.

Since the proposed action is a non-permit requiring form of development, a notification of intent as described by Chapter 18.06.100 of Ocean Shores' shoreline plan will be sent to the City of Ocean Shores at least one week prior to the initiation of construction.

Comment 7

Page 17/ # 4.14 Aesthetics

This will be a significant change in view, and reference should be made to SMP 18.34 explaining how the necessary work will have impacts but could not be located elsewhere, and how it is in the best public interest.

Response: A expanded discussion of view impacts was added to the project's environmental assessment (see Section 4.14).

Comment 8

Site plans: (or accompanying aerial photos, etc.)

Note WAC 173-27-180. Plans need to provide better representation of the dunal area that will be affected, with areas of vegetation and/or other significant features. As it is now and will be restored after construction views are required. Ordinary High Water Mark, rather than Mean high or low water, is an essential feature of shoreline site plans. The staging area needs to be shown with greater detail, both in areal extent and cross section. Again, before and after views included.

Response: The requirements of WAC 173-27-180 govern applications for substantial development, conditional use, or variance permit applications. Since the proposed work is a Federal action that does not require a permit from the City of Ocean Shores or the Department of Ecology, these requirements are not applicable. However, aerial photographs (9/99) which provide a better representation of the vegetation in the area, and revised drawings containing coordinates for the staging area have been provided.

Pursuant to RCW 90.58.030, in any area where the ordinary high water mark cannot be found (based on vegetation or other natural shoreline characteristics), the ordinary high water mark adjoining salt water shall be the line of mean higher high tide. The mean higher high water datum at this location (+9' MLLW) is designated on the drawings provided in the EA.